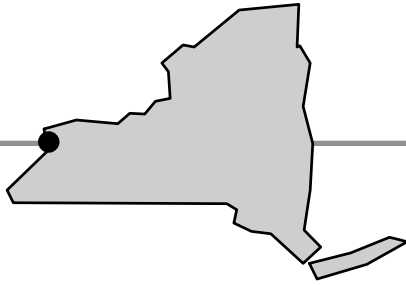




US Army Corps
of Engineers
Buffalo District



Fact Sheet

Former Linde Site Tonawanda, New York

U.S. Army Corps of Engineers, Buffalo District • October 2002 Formerly Utilized Sites Remedial Action Program (FUSRAP)

This fact sheet has been prepared to address community outreach needs and is consistent with provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Fact sheets are one part of an effort to provide public information on environmental restoration and waste management.

Site description and history

The former Linde Site comprises approximately 135 acres located at East Park Drive and Woodward Avenue in the Town of Tonawanda, New York.

The site is now owned by Praxair, Inc. It is bounded on the north and south by other industrial properties and small businesses, on the west by an elementary school, a residential area, and a park and on the east by a Niagara Mohawk Power Corporation easements and CSX railroad tracks.



Praxair currently operates the Tonawanda site as their technology center that employs about 1,400 people. Praxair is a leading supplier of industrial gas products and services.

During the early to mid-1940's, portions of the property formerly owned by the Linde Air Products Corporation (a subsidiary of Union Carbide) were used for the separation of uranium ores under Manhattan Engineering District (MED) contracts. These activities resulted in elevated radionuclide levels in portions of the Linde property. Principal radionuclides of concern are uranium, thorium, and radium.

The U.S. Army Corps of Engineers is currently investigating and cleaning up the site under the Formerly Utilized Sites Remedial Action Program (FUSRAP) to comply with the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA).

Interim Removal Actions Previously Completed

Several removal actions have been completed. They consist of:

- ⌚ 1996 - Demolition and disposal of Building 38.
- ⌚ 1997 - Removal and disposal of 3,700 cubic yards of contaminated soil.
- ⌚ 1997 - Decontamination of Building 31.
- ⌚ 1998 - Decontamination of the interior of Building 14
- ⌚ 1999 - Demolition and disposal of Building 30.

Building 30 demolition - September 1998



Soil Remedial Action

A Record of Decision for radiologically contaminated soils was signed on March 3, 2000. Remedial action (clean up) began in June 2000 and work is scheduled to be completed in 2004. We have safely moved over 110,000 tons of contaminated materials out of State to permitted/licensed facilities.

The selected remedy has been determined to be fully protective of human health and the environment and meets community commitments. It also complies with all Federal and State requirements that are legally applicable or relevant and appropriate to this response action. The remedy includes excavation and off-site disposal of radiologically contaminated materials including soils, demolition debris, foundations, slabs and underground drain lines.



Soil Remedial Action - January 2001

Other Operable Units

In addition to soils remedial action, the Corp of Engineers is evaluating three separate operable units that must be addressed prior to site closure. Two operable units are located on the original Linde site (Groundwater and Building 14) and a designated vicinity property that is located about 1.2 miles north of the original Linde site (Tonawanda Landfill & Mudflats Area) are being evaluated.

Groundwater Operable Unit

The Corps of Engineers is investigating Linde groundwater conditions by monitoring, collecting samples and performing analysis at 14 wells on site.

Sampling and analysis will help the Corps determine the nature and extent of contamination caused by the disposal of MED-related liquids that were injected into the deep aquifer at the site, and determine if any further action is required.

Samples are being collected from depths ranging from 20 to 150 feet below ground surface. The Corps has reviewed existing data and has collected samples in March and June 2001, and August 2002. The analytical results are provided to Federal and State regulators as they become available.

Drinking water in Tonawanda is provided by the municipality and there are currently no known uses of the groundwater in the area.



***Roto-sonic Drilling
Equipment***



Well Installation Activities - February 2001

Other Operable Units (cont'd)

Building 14 Operable Unit

Linde Building 14 was used for laboratory and pilot plant studies for uranium separation in the early part of MED activities. The building is currently used by Praxair for research laboratory activities and office space.

In 1988 and 1989, areas were identified with elevated levels of fixed contamination in the first floor and in the staircase between the first and second floor. The second floor appears to be free of contamination. Decontamination work that complied with DOE standards was completed in 1998. That work included removal of contamination from building surfaces, drain pipes, sumps, concrete, and accessible soils beneath the concrete slabs.

The Corps of Engineers has identified areas that exceed applicable or relevant and appropriate requirements (ARAR's) which are different guidelines than the DOE standards. These areas are generally inaccessible and/or removal was previously determined to be not cost effective, or would affect the structural integrity of the building. The contamination in these areas must be addressed to achieve FUSRAP closure at Linde.

The Corps of Engineers has released for public comment a Proposed Plan that describes five alternatives considered to address the remaining contamination and identifies that demolition and removal is the preferred alternative. The Corps will accept public comments until COB November 29, 2002.

Building 14 - January 2001



Other Operable Units (cont'd)

Linde Vicinity Property

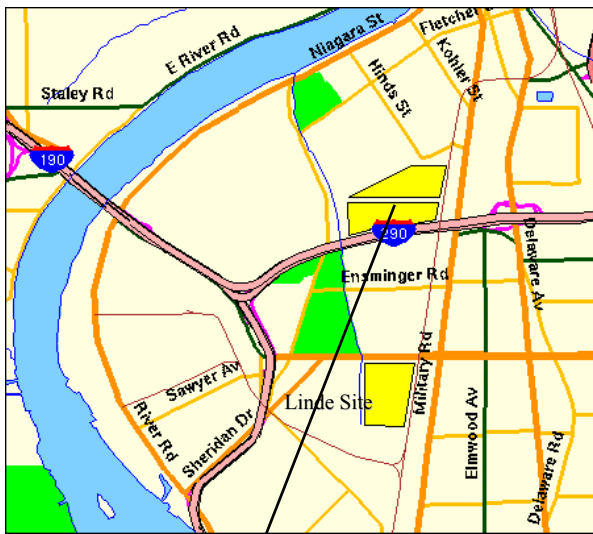
Tonawanda Landfill & Mudflats Area Operable Unit

A designated vicinity property is located about 1.2 miles north of the Linde (Praxair) facility. The property is known as the Tonawanda Landfill and Mudflats Area.

The Tonawanda Landfill and Mudflats area is about 170 acres and is owned by the Town of Tonawanda, and borders the City of Tonawanda. Areas adjacent to the property include a residential area within the City of Tonawanda to the north, a CSX railroad line on the east, the Interstate 290 highway on the south and a Niagara Mohawk Power Corporation utility corridor and a former municipal incinerator that is no longer in use.

A radiological survey conducted in 1991 by the USDOE found small areas of elevated radioactivity within the Landfill and Mudflats. The Corps of Engineers sampled the site in 2001 as part of the Remedial Investigation, and preliminary results show that risks to human health for the current site use are within acceptable U.S. Environmental Protection Agency guidelines.

The Corps is scheduled to release the findings of its Remedial Investigation in 2002.

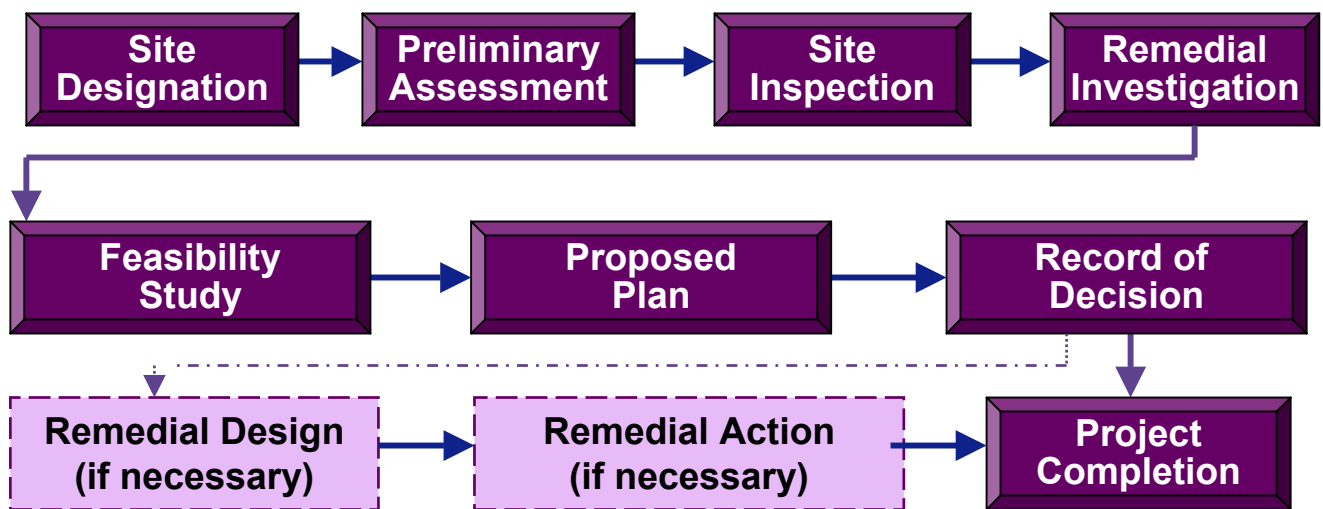


**Tonawanda
Landfill and
Mudflats Area**

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Process

The Corps of Engineers is conducting the cleanup process in accordance with the the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

CERCLA consists of a series of specific steps and activities that must be performed at to ensure a thorough cleanup process. It chronicles actions taken at a site from its initial site designation into the program to its closeout. It also requires that the public be informed and involved in the decision-making process. A diagram of the CERCLA process is presented below.



Note: A removal action may be initiated at any time during the process if human health or the environment is in immediate danger.

Administrative Record File

The Administrative Record File which contains documents that form the basis for the selection of a response action for the Linde Site is available for review at the following locations:

US Army Corps of Engineers
1776 Niagara Street
Buffalo, New York 14207
(716) 879-4124

Tonawanda Public Library
333 Main Street
Tonawanda, New York 14150
(716) 693-5043

Contact us for more information

If you would like to be included on the Linde mailing list, please let us know.

Information is available by calling the toll-free public access number: **1-800-833-6390**

Visit our website at: **<http://www.lrb.usace.army.mil/fusrap/linde/>**

Electronic mail can be sent to us at: **fusrap@usace.army.mil**

You can write to us at: **U.S. Army Corps of Engineers
1776 Niagara Street
Buffalo, NY 14207
ATTN: FUSRAP**